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RELATIONSHIPS BETWEEN ERYTHROCYTE N-3 LEVELS, ADIPOSITY AND INSULIN SENSITIVITY IN HEALTHY WOMEN

***Pleurotus ostreatus* (Jacq.ex Fr.) P. K.: A highly nutritious edible mushroom cultivated in Serbia as a potential remedy for chronic infectious diseases**

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Studies indicate that infections caused by pathogenic microorganisms may result in chronic diseases, such as obstructive pulmonary disease, chronic rhinosinusitis, aspergillosis etc. In addition, microorganisms of clinical relevance have developed multiple drug resistance which has seriously increased recently, threatening to global public health. Therefore, alternative strategies for treatment, which include natural sourced substances of traditional use, are required. Mushrooms have been recognized for their nutritional properties and richness in bioactive compounds. As the third most cultivated mushroom in the world, *P. ostreatus* has been chemically characterized on several occasions to prospect bioactive molecules. Herein, we report detailed chemical profile regarding nutrients, as well as the ability of the methanolic extract obtained from commercially cultivated fruiting bodies to reduce *in vitro* growth of selected pathogenic microorganisms, some of which are causatives of chronic diseases. Carbohydrates were the most abundant compounds (80 g/100 g dw), followed by proteins (10 g/100 g dw) and fat (2 g/100 g dw). Trehalose was the most abundant sugar (17 g/100 g dw), whereas mannitol was present in lower amounts (0.9 g/100 g dw). As for the fatty acids, polyunsaturated fatty acids were predominant in the sample (56%), followed by saturated fatty acids (25%) and monounsaturated fatty acids (19%). With energy value of 382 kcal/100 g dw, cultivated *P. ostreatus* represents a healthy, low-caloric food, recommended for use on a daily basis. The antimicrobial potential of the extract was evaluated against pathogenic Gram negative bacteria *P. aeruginosa*, which was strongly inhibited (MIC value = 0.51 mg/mL, MBC value = 1.02 mg/mL). Regarding antifungal activity, the extract exhibited very good inhibitory activity against a range of *Aspergillus* species, which are considered responsible for aspergillosis. Hence, data suggest that cultivated mushroom *P. ostreatus* is a good source of nutritional components beneficial to human health. Furthermore, its extract represents a potent bioactive agent against pathogenic microorganisms, which are potential causal agents of chronic diseases.

Keywords: *Pleurotus ostreatus*, *aspergillosis*, *Pseudomonas aeruginosa*, nutritional value

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